DEPARTMENT OF EDUCATION-FSA

FMS INTEGRATION PARTNER

PROGRAM FUNCTIONAL DESIGN

FORM 2000 MONTHLY/QUARTERLY FORM RECONFIGURATION CONVERSION TO 149 – FORM 2000 SYSTEM ENHANCEMENTS

Author: Kim Olszewski
Creation Date: October 15, 2003
Last Updated: November 12, 2003

TABLE OF CONTENTS

Document Change Control

Date	Author	Version	Change Reference
10/20/03	Kim Olszewski	1.0	Initial Creation

Approval

Created By:	Kim Olszewski	312-693-4918	**Creation Date:** 10/15/03
Project Lead Sign Off:	Joanna Zieba	312-693-3414	**Sign Off Date:** 11/12/03
FSA Representative Sign Off:	Jay Hurt	202-377-3453	**Sign Off Date:**

Specification

Program Name:	Form 2000 Monthly/Quarterly Form Reconfiguration Conversion
Functional Design Document ID & Title:	FORM2000_MONQUART_RECONFIG_CNV_FD.doc
Application:	Form 2000 Monthly Form 2000 Quarterly (Monthly/Quarterly Form)
Priority:	High
Estimated Production Date:	April 2004
Other Affected Applications:	FP DataMart SAIG
Comments:	Detailed changes regarding the Monthly and Monthly/Quarterly Form layout changes are included in the Form 2000 Monthly/Quarterly Reconfiguration Functional Design.

General Requirements

Business Objective:

As part of TO 149, the Form 2000 Monthly and Monthly/Quarterly Reports(also referred to as forms in this document) will be modified. The designed modification includes the transfer of fields MR-24, MR-25, MR-26 from the Monthly/Quarterly form to the Monthly form. The objective of this modification is to consolidate all non-accounting events to the Monthly form. The removal of MR-24, MR-25, and MR-26 from the Monthly/Quarterly form will assist auditors by only containing accounting events.

Since the Form 2000 AP/GL Interface pulls field values from the Monthly and Monthly/Quarterly tables, the MR-24, MR-25, and MR-26 account mapping will be altered to reflect the table changes and ensure accurate AP and GL posting. Although the MR-24, MR-25, and MR-26 fields are being transferred to the Monthly storage table, the data in these fields will continue to be posted only to the GL. The SFA Account Mapping will be updated so that MR-24, MR-25, and MR-26 are mapped to the Monthly form. However, the posting destination assignment of "GL" will remain the same.

Component Description:

The Form 2000 Monthly/Quarterly Form Reconfiguration Conversion will consist of the following components:

- Alter the Monthly table to include necessary fields for MR-24, MR-25, MR-26 and their designated amounts. (Requirement 4.1)
- Convert existing MR-24, MR-25, and MR-26 data from the Monthly/Quarterly table to the Monthly table. (Requirement 4.2)
- Update account mapping for items MR-24, MR-25, and MR-26 so that subsystem is "Monthly" rather than "Monthly/Quarterly". (Requirement 4.3)
- Alter existing SQL scripts and view definitions used by various reports and programs, to pull MR-24, MR-25, and MR-26 data from the Monthly table. (Requirements 4.4)

The Monthly table will be altered to add all applicable fields for MR-24, MR-25, and MR-26. The new columns will be created using the same type and size as the same columns in the Monthly/Quarterly table.

A conversion process will be created to extract all MR-24, MR-25, and MR-26 data from the Monthly/Quarterly table and load the data into the newly created fields on the Monthly table. A data match will occur in this program using the fiscal year, GA code and month, to accurately load data into the appropriate records.

The SFA Account Mapping for the MR-24, MR-25, and MR-26 fields will be updated using the SFA Account Mapping form in Oracle Applications. All records related to MR-24, MR-25, MR-26 will be updated to designate that the fields now map to the "Monthly" form. Additionally, verification will be performed to ensure that the fields continue to have a destination assignment of "GL". The existing account mapping for the MR-24, MR-25, and MR-26 fields which maps the fields to the "Monthly/Quarterly" form will be inactivated.

Any custom database views or scripts that reference the MR-24, MR-25, and MR-26 fields will be modified to pull the data from the Monthly form. Additionally, any views pulling strictly Monthly data will be modified to include the MR-24, MR-25, and MR-26 fields. The existing views and scripts are custom code programs used by various reports to efficiently validate data on the Monthly and Monthly Quarterly data. The reports referencing these views will be modified to accurately pull data from the appropriate view.

Component Risks:

None

Authorization:
>   The conversion will be performed by the FMS Operations Team after business hours.

Scheduling Requirements:
>   The program will be submitted manually through a one-time conversion process.

Volume:
>   All historical data will be converted. The number of records existing in the Monthly Quarterly table at the time of conversion will be approximately 1130.

Frequency:
>   The conversion will only be performed once.

Development Complexity:
>   Medium

Security Concerns:
>   None

Assumptions:
1. Development of the conversion program will be performed using the SQL Navigator development tool.
2. The conversion program will be registered in Oracle Applications as a single concurrent request.
3. The FMS Operations team will provide the Form 2000 team with the most recent table definitions and scripts.
4. Naming conventions for the fields being added to the Monthly table will be identical to the naming conventions in the Monthly/Quarterly table.
5. Since the table definition is changing for the Monthly table, subsequent changes will be made to the FP DataMart process to accommodate the additional fields.
6. Any reports utilizing data from the MR-24, MR-25, and MR-26 fields will be updated to correctly pull the data from the Monthly table instead of the Monthly/Quarterly table.
7. The conversion will process all historical data from the following fields: MR_24_P, MR_24_I, MR_24_O, MR_25_P, MR_25_I, MR_25_O, MR_26_I, MR_26_O in the Monthly/Quarterly table.
8. A detailed instruction guide, listing the steps necessary for performing the conversion, will be completed by the Form 2000 team and transitioned to the FMS Operations team, who will be executing the conversion.
9. SFA Account Mapping modifications will be made by the FMS Operations Team. A detailed configuration guide will be completed by the Form 2000 team and provided to the FMS Operations Team upon Production Readiness Review.
10. Conversion and SFA Account Mapping modifications will be completed before the other enhancements in this Task Order are migrated to production on April 4, 2004. However, this cannot be performed until after the GA and FP submit/accept deadlines have been met.
11. GA's will not create new Monthly and/or Monthly/Quarterly Reports between Wednesday, March 24, 2004 and Sunday, April 4, 2004.
12. FP's will not accept a Monthly and/or Monthly/Quarterly Report between Wednesday, March 24, 2004 and Sunday, April 4, 2004.
13. As part of the Monthly/Quarterly form Reconfiguration Conversion, data from the Monthly /Quarterly table for MR-24, MR-25 and MR-26 will transfer to the Monthly table. Since the relationship between the tables is not 1:1, the Monthly form will be modified to display NULL values for MR-24, MR-25 and MR-26 when no data is available for those fields.
14. Custom FSA Oracle reports referencing the Monthly and Monthly/Quarterly tables will be modified to include MR-24, MR-25, and MR-26 on the Monthly form.
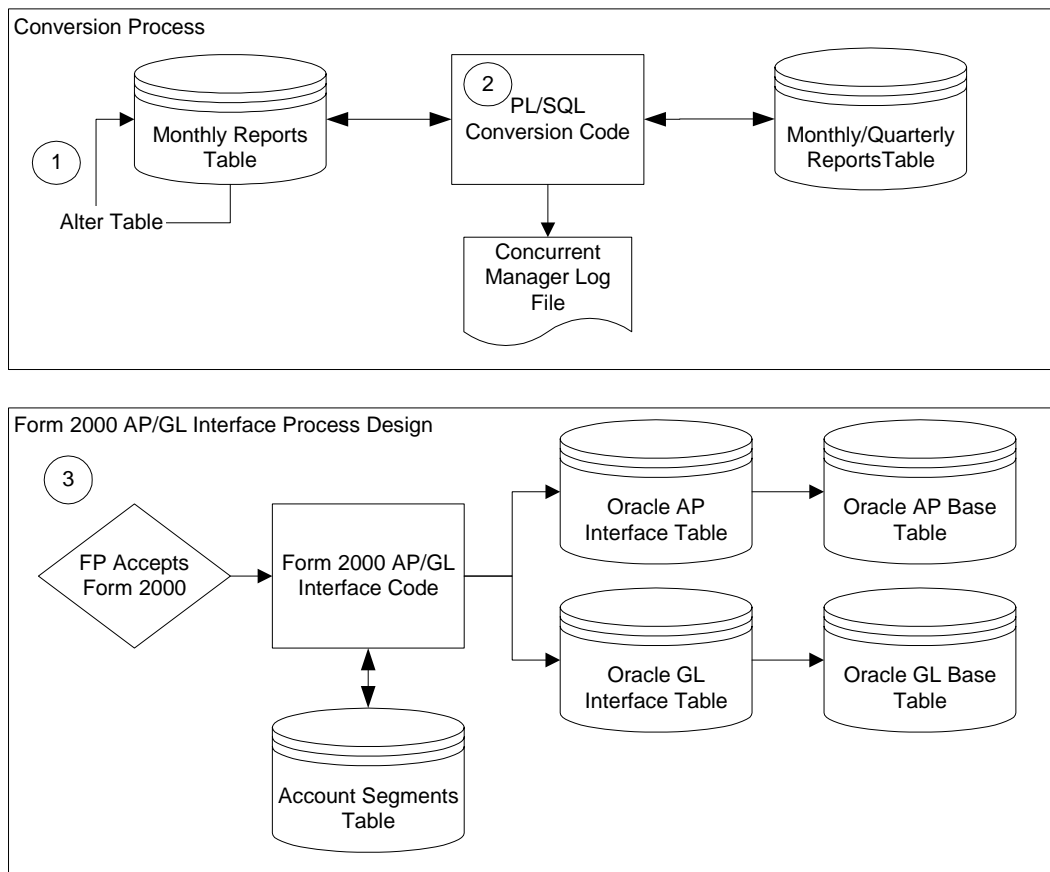
15. Oracle Discover reports affected by the enhancement will be modified by the FMS Operations team. The FMS Form 2000 team will provide transition documentation prior to deployment into production.

16. The GA's submitting Monthly and Monthly/Quarterly reports via FTP will modify their data files so that MR-24, MR-25, and MR-26 are sent in the Monthly file, rather than Monthly/Quarterly file.

17. The new Form 2000 SAIG process will be implemented only after the Form 2000 Monthly/Quarterly Form Reconfiguration Conversion process completes successfully.

Design

Process Flow Diagram:

Detailed Description of New/Changes to Existing Program:

1. The existing Monthly Reports database table, FFELGA_MONTHLY_REPORTS, will be altered to include columns for MR-24, MR-25, and MR-26. The definition of each column will be identical to the existing columns in the Monthly/Quarterly Report table, FFELGA_MONQUART_REPORTS. The following columns will be created for each item number:

- MR-24
  - Principal Amount (MR24_P)
  - Interest Amount (MR24_I)
  - Other Amount (MR24_O)
- MR-25
  - Principal Amount (MR25_P)
  - Interest Amount (MR25_I)
  - Other Amount (MR25_O)
- MR-26
  - Interest Amount (MR26_I)
  - Other Amount (MR26_O)

2. An Oracle PL/SQL Conversion program will be developed. This program will extract all historical data from the Monthly/Quarterly table for fields related to MR-24, MR-25, and MR-26 and load the data into the corresponding fields in the Monthly table. The program will use the GA Code, Fiscal Year and Month in order to designate the correct records that will be updated with the field information. Since not all monthly records have a corresponding quarterly record, the MR-24, MR-25, and MR-26 fields will remain NULL for these records. A record count check will be performed to ensure that the number of records retrieved from the Monthly/Quarterly table equals the number of records inserted into the Monthly table. If an error occurs during the program at any point, the conversion will complete with a status of error and all insertions will be rolled back. For each record being converted, a message will be written to the concurrent manager log stating whether the record completed or failed. The descriptive log message will contain the GA Code, Fiscal Year, and Month, so that errors can be easily identified and corrected by the FMS Operations team during conversion. This conversion program will be registered in Oracle Applications and executed during non-business hours.

3. The existing functionality of the Form 2000 AP/GL Interface program related to the Monthly/Quarterly form will not change. The process will continue to initiate once the FP accepts the submitted Form 2000 Monthly/Quarterly Report (the Monthly portion of this interface will be modified as a result of another enhancement addressed in this Task Order; please see the FMS AP/GL Interface Trigger Modification Functional Design for more detail). The AP/GL Interface code utilizes an account segment table to determine the correct accounting segments to be loaded into the Oracle AP and GL. This table will be updated to reference the Monthly table as the location of the MR-24, MR-25, and MR-26 fields, using the existing Oracle Applications SFA Account Mapping Form. The GL destination for these fields will not change since they will continue to only post to the GL.

Table Values Changes for FFELGA_ACCOUNT_SEGMENTS

MR Code	Subsystem	Destination
MR_24_P	Monthly	GL
MR_24_I	Monthly	GL
MR_24_O	Monthly	GL
MR_25_P	Monthly	GL
MR_25_I	Monthly	GL
MR_25_O	Monthly	GL
MR_26_I	Monthly	GL
MR_26_O	Monthly	GL

Input Parameters:

Parameter Name	Datatype	Default Value	Required (Y/N)	Value Set	Comments

Database Objects:

Database Object Name	Object Type	Oracle Application	Comments
FFELGA_MONTHLY_ REPORTS	Table	Form 2000 FFEL GA	This table will be altered to include columns: MR_24_P, MR_24_I, MR_24_O, MR_25_P, MR_25_I, MR_25_O, MR_26_I, MR_26_O
FFELGA_MONQUART_ REPORTS	Table	Form 2000 FFEL GA	This table will be altered to remove the columns: MR_24_P, MR_24_I, MR_24_O, MR_25_P, MR_25_I, MR_25_O, MR_26_I, MR_26_O
FFELGA_MONQUART_ CONVERSION	PL/SQL Program		This conversion program will transfer MR-24, MR-25, MR-26 data from the Monthly/Quarterly table to the Monthly table.
FFELGA_MONTHLY_ REPORTS_V	View	Form 2000 Monthly FFEL GA	This view will be altered to add the MR-24, MR-25, MR-26 columns to the view select statement.
FFELGA_MONQUART_ REPORTS_V	View	Form 2000 Quarterly FFEL GA	This view will be altered to remove the MR-24, MR-25, MR-26 columns from the view select statement.
FFELGA_MONTHLY_ REPORTS	Synonym	Form 2000 Monthly FFEL GA	This synonym will need to be recreated once the Monthly table is altered.
FFELGA_MONQUART_ REPORTS	Synonym	Form 2000 Quarterly FFEL GA	This synonym will need to be recreated once the Monthly/Quarterly table is altered.
FFELGA_MONTHLY_ REPORTS_V	Synonym	Form 2000 Monthly FFEL GA	This synonym will need to be recreated once the Monthly view is altered.
FFELGA_MONQUART_ REPORTS_V	Synonym	Form 2000 Quarterly FFEL GA	This synonym will need to be recreated once the Quarterly view is altered.
FFELGA_FRM2K_RCVBLS_ RPT_SP_5_V404.slq	SQL Script	Form 2000 FFEL GA	This script pulls data from the Monthly and Monthly/Quarterly tables and loads the data into a temp table used by various reports. The script will need to be modified to pull MR-24, MR-25, and MR-26 from the Monthly table.
FFELGA_FRM2K_RCVBLS_ RPT_PKG_B_V403.sql	SQL Script	Form 2000 FFEL GA	This script pulls data from the Monthly and Monthly/Quarterly tables and loads the data into a temp table used by various reports. The script will need to be modified to pull MR-24, MR-25, and MR-26 from the Monthly table.

Dependencies

Dependencies on Other RICE Components:
>   None

Dependencies on Other Business Components:
1. SFA Account Mapping modifications must take place prior to the execution of the conversion.
2. All Monthly and Monthly/Quarterly Accept and Submit deadlines must be met by the GA's and FP's prior to the execution of the conversion.

Design Constraints:
>   None

Performance Considerations:
>   None

Implementation Considerations:
>   The Conversion program will be disabled within the Oracle Applications after successful completion.

Other Dependencies/Special Concerns:
>   Full testing of the Form 2000 Monthly/Quarterly Form Reconfiguration Conversion cannot be completed until layout changes are made to the Monthly and Monthly/Quarterly forms. Testing between both programs will be coordinated by the Form 2000 Team.

Error Handling

Potential Errors	Possible Reasons	Solution Strategy
During conversion, a record fails insert into the Monthly table, due to table errors.	The table synonym was not recreated properly.	Recreate the table synonym.
During conversion, a record fails insert into the Monthly table, due to table errors.	Table columns were not created properly.	Verify the correct attributes of the columns and recreate the table and table synonym.

Testing Requirements

Requirements Matrix Reference	Test Condition	Expected Results
4.2	Monthly table is modified correctly and historical data is successfully converted.	All MR-24, MR-25, MR-26 rows are successfully created in the Monthly table with the appropriate type and size.
4.1	Monthly table includes fields for MR-24, MR-25, and MR-26	Alter script was executed successfully and fields added match those in the Monthly/Quarterly tables exactly.
4.2	Historical data for fields MR-24, MR-25, MR-26 exist in the Monthly table.	Conversion program was executed successfully and all historical data was successfully converted from the Monthly/Quarterly table.
4.2	Record in the Monthly table has NULL values for fields Mr-24, MR-25, MR-26	The monthly record does not have a corresponding record in the Monthly/Quarterly table.
4.2	All records on the Monthly/Quarterly table correspond to a record in the Monthly table.	Data is successfully converted to the Monthly table.
4.2	A record on the Monthly/Quarterly table does not correspond directly to a record on the monthly table.	The conversion program completes with error , all records insertions are rolled back, and the concurrent manager log is updated with a descriptive error message.
4.2	The conversion completes successfully.	The concurrent manager completes successfully, and the concurrent manager log is updated with a message indicating success.
4.4	The custom views are modified correctly.	Reports utilizing the view process complete successfully and produce accurate data.
4.4	Custom scripts are modified correctly to pull MR-24, MR-25, MR-26 data.	The scripts successfully pull data from the Monthly table and store the data in custom temp tables.

Issues and Additional Considerations

The following Issues were defined during Functional Design:

Issue	Raised By / Date Needed	Resolution/Answer	Resolved By / Date Completed
How should quarterly data be converted into monthly data? Can MR-24 through MR-26 be left Null on the monthly table?	Kim Olszewski	Data in the Monthly table should only be populated if there is corresponding data from the Monthly/Quarterly. Since the relationship is not 1:1, there will be some records on the Monthly table with NULL MR24-26 fields.	Sandra Simmons
Will all historical data need to be converted?	Kim Olszewski	Yes	Sandra Simmons